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THE
EXAMINATION OF LYING-IN WOMEN

A SHORT GUIDE TO THE

EXAMINATION OF LYING-IN WOMEN

WITH

FIVE WOODCUTS

BY

PROF. CREDÉ AND PROF. LEOPOLD

Late Director of the Lying-in Hospital at Leipsic.

Director of the Lying-in Hospital at Dresden.

TRANSLATED BY

WILLIAM H. WILSON M.A., M.B., (OXON),

Radcliffe Travelling Fellow.

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HENRY KIMPTON,

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PREFACE.

THIS Pamphlet is an extract from the 5th edition of the authors' treatise on Obstetrics for Midwives issued by order of the Government of Saxony. In order to give a more general circulation to some recent researches on measures for the prevention of puerperal fever, it was thought well to abstract from the work in question the two chapters which contain much new and important matter, and to publish them in a separate form. The two chapters are those dealing with the external examination of the patient, and with the method of disinfection and cleansing.

In the pamphlet it will be seen that the external examination, a process which ensures security to the woman as regards infection, is given the importance which properly belongs to it, and it is hoped

that thus the method may be raised from a hitherto rather neglected position, to one which it better deserves. In all essential particulars the arrangement of the text was already complete when the death of Professor Credé took place.

Since the appearance of the original treatise many friendly criticisms of the work have appeared, and it has been my aim to supply the wants which have been thus pointed out.

The earlier diagram of the third mode of manual application has been replaced by two new and clearer ones, whilst in all the figures the child has been outlined in red. It is hoped that the work may continue to find friends and recognition in its new form.

Dresden, April 1892.

LEOPOLD.

TRANSLATOR'S PREFACE.

To THOSE unacquainted with the customs prevalent in Germany, the frequent reference to the midwife may cause surprise. The midwife, however, in most parts of the German Empire, holds a position which is of much greater responsibility, and at the same time is under far better legal regulations, than in this country. The rules stated in the pamphlet are some of those which midwives in Saxony are bound by law to follow; and as will be noticed incidentally in the text, a disregard of any one of these rules, if followed by ill consequences renders the midwife liable to a heavy fine, as well as to privation of her qualification. Hence it is customary even in families of position for a midwife alone to attend cases of labour, the physician being summoned, only if the pre-

sentation is abnormal or any unexpected difficulty presents itself. The midwife is, however, bound to seek the help of a physician in all other than vertex cases as also in cases of twins. There are besides numerous other occasions defined by the law of Saxony in which it is the duty of the midwife to send for skilled assistance.

I have undertaken the translation of this pamphlet with the greater pleasure, that I have been able to prove to myself during four months spent in Dresden under Professor Leopold, the great value of the methods described. This is especially so with reference to the method of external or abdominal examination: it is remarkable with what ease the position and presentation of the child can be made out in almost every instance. It is indeed only in a small number of cases—for the most part those of somewhat nervous primiparæ—that the observer is left in doubt. The difficulty in these cases arises from the greater tonicity of the uterine muscle

—the rule in primiparæ—and the often excessive firmness of the abdominal walls; an unusually fat abdomen, or a large quantity of liquor amnii are also occasional obstacles.

If a doubt should arise, it will usually be as to which side of the uterus the back of the child occupies, or as to whether it lies anteriorly or posteriorly: this doubt can usually be at once set at rest by applying the stethoscope. It rarely happens by the use of either the third or fourth mode of application of the hands that it is impossible to determine whether the head is presenting or not. The great value of the fourth mode is found in its use in following the progress of labour, examining at intervals of half an hour for instance, the gradual and constant descent of the head can be ascertained, with a certainty, which is in reality almost greater than that obtained by examination per vaginam. A change of position of the head such as from flexion to extension, the chin descending in a manner disproportionate to the descent of the rest of the

head, which occurs in many cases of contracted pelvis, is at once perceived, and may be cited as a good example of the remarkable effectiveness of the method.

From the above it will be seen that the system described renders the use of the vaginal examination in normal cases to a large extent unnecessary. The unfortunately too common practice, of resorting to the vaginal method on frequent occasions at short intervals, is not only unsafe, but far more unpleasant to the patient, than the use of the external method.

The safety of the latter lies not only in the impossibility of conveying infection, but also in the equal impossibility of rupturing the membranes before labour has reached the stage at which this becomes advantageous.

Lastly, the mode of disinfection may seem arduous: some systematic method of this sort is, however, absolutely necessary, as the only means of avoiding danger lies in perfect cleanliness.

Wm. H. Wilson.

§ 1.

The examination of cases for diagnostic purposes forms one of the most important duties of the obstetrician; and it is only through constant and untiring practice that it is possible to obtain the necessary readiness and certainty in this respect.

The results of an examination undertaken with care and precision are highly advantageous to the patient, whilst conversely the greatest possible harm may arise from an examination which is superficial, rough, or careless, or which is conducted with uncleansed hands. The following general rules should therefore be observed.

1. Care should be taken before making an examination, that the bladder and rectum are empty.

2. The required knowledge should be obtained from the first examination.

3. To avoid the chance of anything being overlooked the observance of a definite method of examination, such as that given below, is recommended.

4. The feeling of modesty is to be preserved as far as possible, no part should be unnecessarily exposed. An unnecessary number of witnesses is to be avoided. Preserve a cheerful demeanour throughout; and observe great discretion in communicating the results of the examination.

5 The left hand should possess a dexterity in examination equal to that of the right.

6. The hands should be kept perfectly clean, soft, warm, and dry. All work should therefore be avoided which tends to the opposite condition, or to diminish the tactile sensibility.

The hands are best softened by frequent washing with warm water and soap. The use of fine white sand whilst washing is advantageous with this object.

7. Beyond examination, information is to be obtained regarding the personal and family history of the patient, more particularly with reference to the diseases of childhood, at what age she learnt to walk, the course of the catamenia and the history of previous labours.

8. The examination should always be conducted with the patient in the recumbent position,—lying on a mattress—the head only supported by a small pillow—the rest of the body being horizontal.

9. It is usually well to cover the woman's face with a light linen cloth (about 30 inches square). This ought for example always to be done if students or others, not employed upon the case, are standing about the bed looking on.

10. The bed should stand free in the room so that it may be approached from all sides.

The examination falls under two heads the external or abdominal, and the internal or vaginal method.

§ 2.

External Examination

Is carried out by inspection, auscultation, and palpation. A general survey should first be made of the whole of the patient's body; observing whether she possesses a correct feminine build, is well-grown, can walk properly, if the face gives any indication of disease, and whether the body generally is well-nourished or not.

Next, the breasts are to be inspected in order to determine, if they are large, medium sized, or small, lax and pendulous, or firm and prominent, empty, or engorged with milk with blue veins shewing through the skin, whether the nipples are well-formed, are retracted or shew a tendency to soreness, and whether the characteristic changes of pregnancy are present.

The examination is then directed to the abdomen, exposed for the purpose by unfastening the garments at the waist,

and separating in opposite directions those belonging to the upper and lower part of the body respectively.

Before proceeding to any manual examination a careful inspection should be made. A contracted pelvis is often indicated at once to the sight alone (prominent or pendulous belly, or a broad or irregular-shaped uterus) especially in the case of primiparæ. Further, inspection is necessary for the recognition of conditions not obvious to the sense of touch, such as the white or reddish scarlike striæ on the skin of the abdomen and hips; or injuries, wounds, ulcers, tumours or growths.

Having again covered the abdomen with one thin linen garment or cloth, the observer lays both hands (previously warmed) softly but firmly upon it, in order to determine the circumference and tension of the abdominal walls, the size, shape, firmness, and mobility of the uterus and the amount of liquor amnii.

He then seeks by gentle pressure of

the hands placed on opposite sides of the belly, and partly by careful dipping, to make out the different parts of the fœtus, and to determine their size, attitude, position, movements, and mobility. To make this method of external examination more complete and accurate, the following four modes of application of the hands are to be used in the order in which they are given. Both hands are employed on each occasion, the whole palmar surface being applied. The fingers may be either made to lie one upon the other, if it be desired to exert an equable but somewhat powerful pressure on the abdomen and its contents or to define the latter more clearly; or the fingers may be separated as far as possible for the purpose of differentiating or bringing pressure to bear on particular parts of the abdominal contents. In using the first three of these modes of application of the hands the observer stands facing the patient on her left side, in the fourth mode he faces the patient's feet.

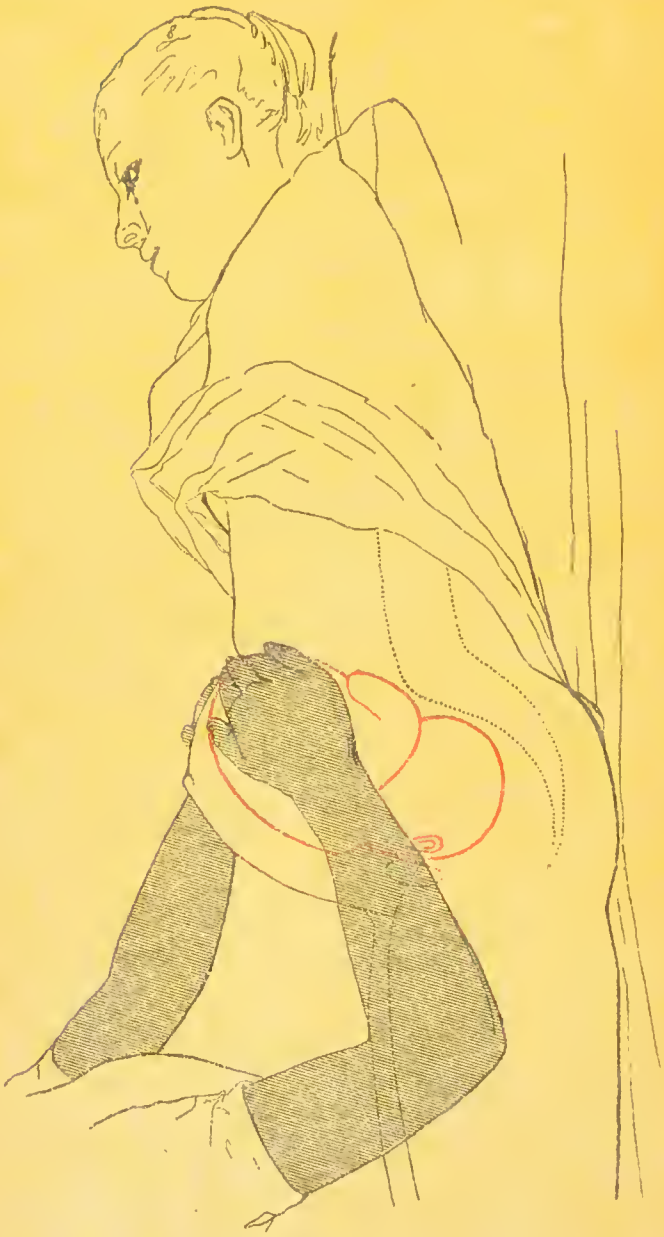

FIG. 1. FIRST MODE OF APPLICATION OF THE HANDS.

The finger-tips being in contact, the palmar surfaces of both hands are placed transversely across the lower part of the abdomen just above the pubes; retaining their symmetrical position they are moved gently upwards over the surface of the abdomen to the fundus uteri, determining the position of the latter with reference to the navel and the ensiform process of the sternum. By this procedure, it will be at once observed whether the child lies vertically or transversely, if the head or breech occupies the fundus, the size of the uterus, and hence the stage which the pregnancy has reached.

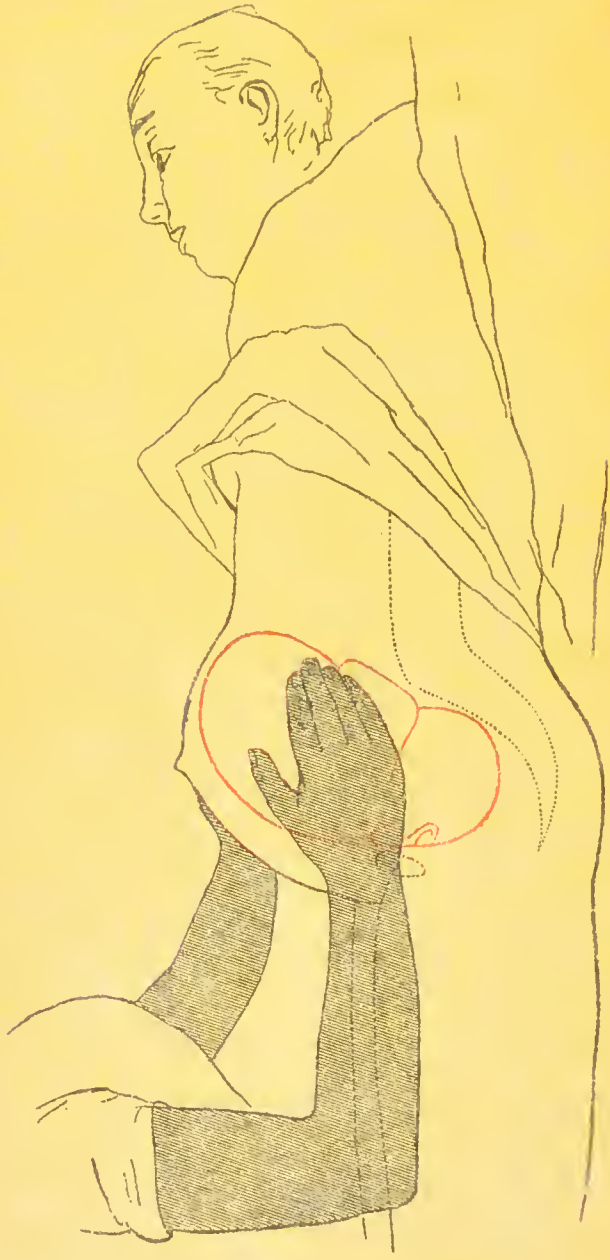

FIG. 11. SECOND MODE OF APPLICATION OF THE HANDS.

Both hands with the fingers extended are moved outwards from their position below the sternum, so as to lie one on each side of the uterus parallel with the long axis of the patient's body. Under one hand will be felt the limbs of the fœtus, under the other the long elevation corresponding to the back. The latter may be more readily found if one hand be placed on the middle line of the abdomen so as to gently press the uterus together from before backwards, the liquor amnii is thus pressed to one side, the child's back against the other side of the uterus, where it can be felt by the disengaged hand.

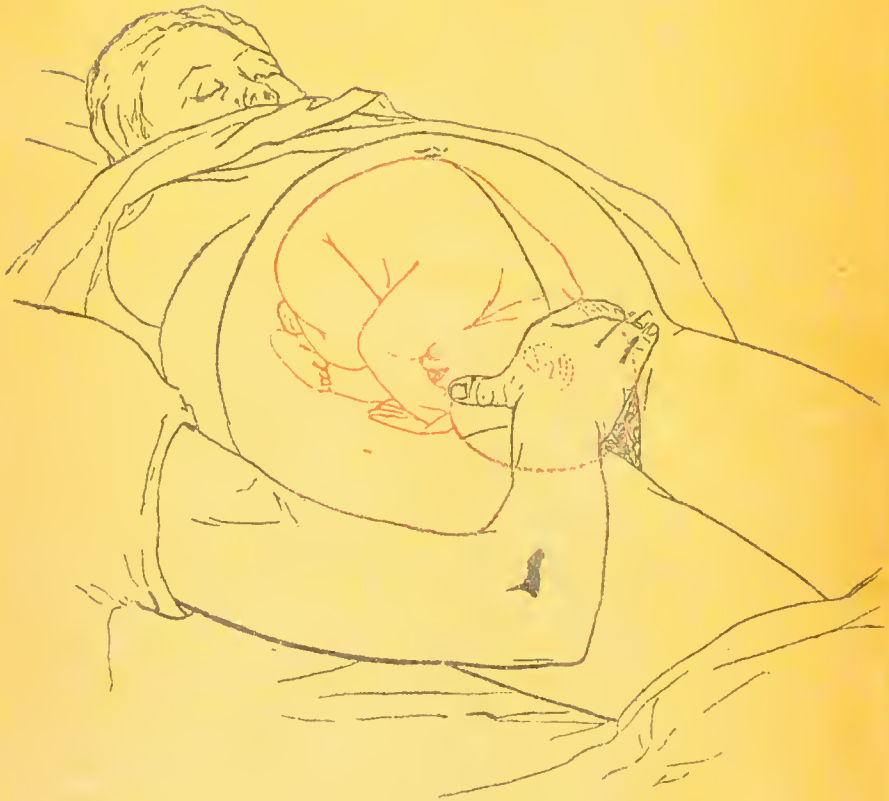

FIG. III. THIRD MODE OF APPLICATION. PRIMIPARA (FULL TERM). HEAD IN PELVIC INLET.

The presenting part of the fœtus is grasped just above the pelvic inlet, between the thumb and middle finger of the right or left hand, the fingers being separated as far as possible (Fig. 3). To get a good hold of the child's head in primiparæ at full term, when the head is already in the pelvic inlet (Fig. 3), the thumb and middle finger must be directed towards the pelvic-cavity: whereas in multiparae, the head will be better grasped in its more elevated position (Fig. 4) if the hands and points of the fingers be held in a more horizontal position.

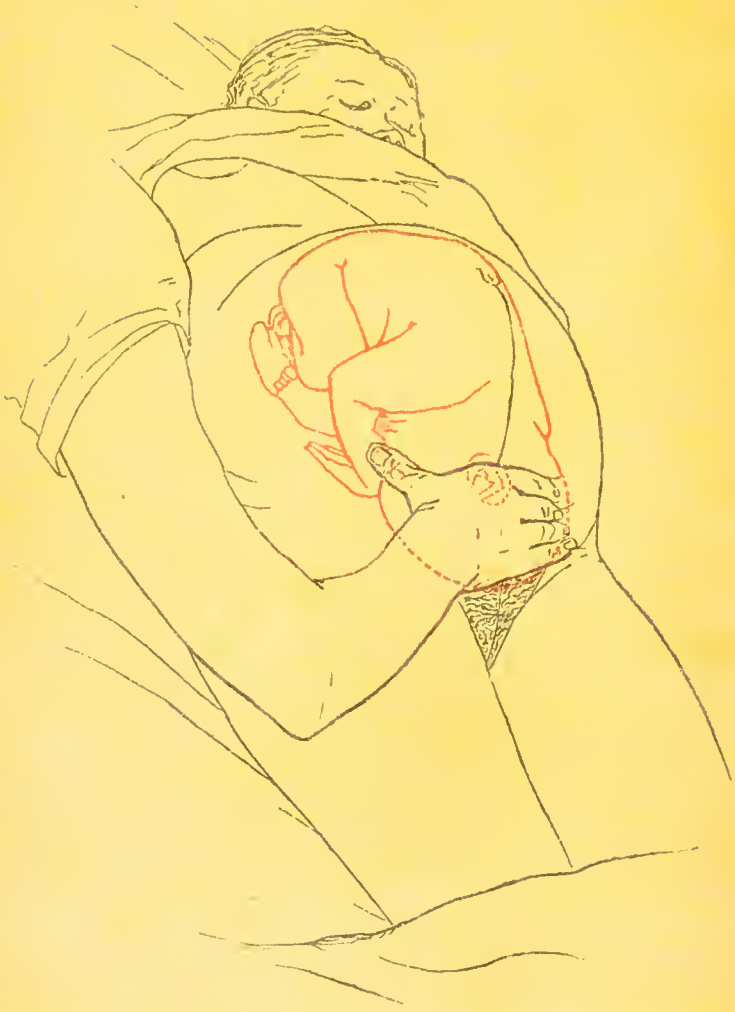

FIG. IV THE SAME MODE IN A MULTIPARA (FULL TERM). HEAD STILL HIGH ABOVE THE BRIM.

To facilitate this mode of applying the hands, particularly in multiparæ, the fundus uteri is pressed on from above towards the examining hand. If the presenting part is hard and round it can only be the head. it can then be grasped like a ball and moved about from side to side. The breech is softer and much less regular in character. Should the presenting head or breech of a living child be felt very thickly covered, ill-defined, and somewhat softer than usual, it is possibly due to the placenta being placed in the lower segment of the uterus.

Should a presenting part not be felt, the head is to be sought for at the sides of the uterus; it may nearly always be found by gently making short dips or thrusts with the fingers of one hand over different parts of the abdomen, the head rebounds at each impact.

The above third mode is of the greatest value in those cases in which the presenting part, be it head or breech, lies above or just entering the pelvic inlet.

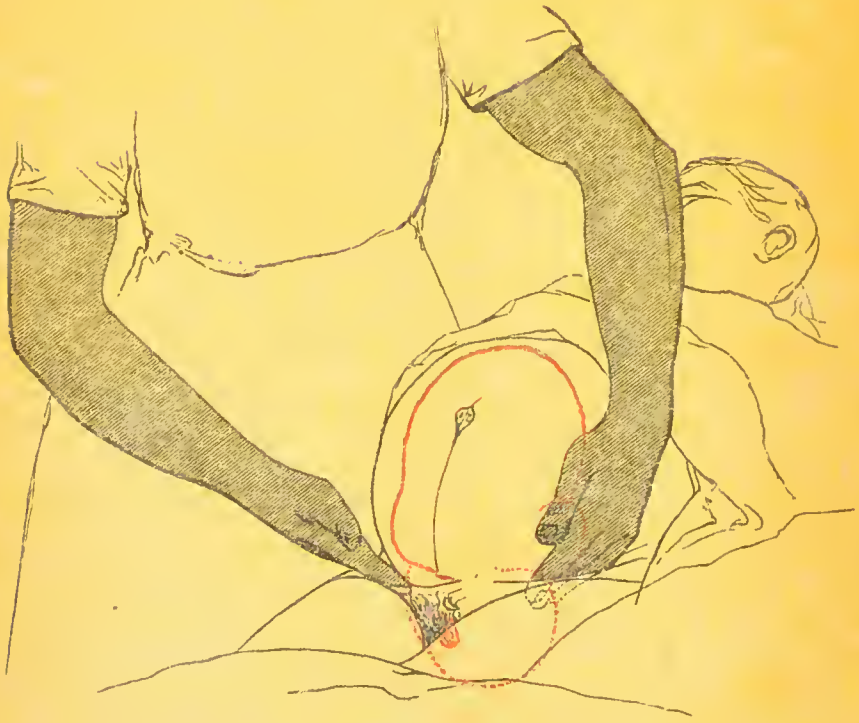

FIG. V. FOURTH MODE OF APPLICATION OF THE HANDS.

If, however, as often happens, in primiparæ during the last week of pregnancy at full term, the presenting part lies in the cavity or outlet of the bony pelvis, or has reached this position in the course of labour, the fourth mode of application of the hands (Fig. 5) is recommended. For this purpose, the observer, standing at the side of the bed with his back to the woman's face, presses the tips of the fingers of both hands down in the inguinal region, on each side, towards the sides of the pelvic cavity. If the tenseness of the abdominal walls renders this difficult it may be overcome by causing the patient to draw her legs up, the heels being kept together while the knees are slightly separated. With a low-lying head the fact that the pelvis contains a part of the child which is hard and round is sufficiently obvious, the more prominent forepart of the head, on the one side, being readily distinguished from the flatter nape of the neck on the other. The above four modes of applying the hands may be com-

bined together in various ways with much advantage.

The pelvis is next to be examined externally. To do this the finger-tips of both hands are pressed in on either side of the sacrum, testing the curvature, vaulting, and breadth of the latter, and the direction and mobility of the coccyx, in order to obtain some information regarding the inclination and curve of the pelvis.

Thence the hands are passed forward along the crests of the ilia as far as the anterior superior spines, the distance apart of the latter indicating the transverse diameter of the false pelvis. If it is found possible to touch both these spines, with the outstretched little finger and thumb respectively, of one hand, at the same time, it is a sign that the pelvis is probably considerably contracted. Next the breadth, curvature and direction of the pubic bones are to be examined; and finally the legs should be looked at, for curvature, œdema, or varicose veins.

Passing now to the examination of the

abdomen by auscultation, the room being quiet, the observer kneeling or bending over the patient places his ear, or better, the stethoscope firmly against the abdominal wall (covered with a cloth) over different parts of the uterus in succession. The sounds to be sought for are of two varieties in point of origin, those arising in the fœtus, and those arising in the mother. Those of fœtal origin are:

1. The heart sounds,
2. The fœtal movements,
3. The bruit arising in the umbilical vessels.

The heart sounds of the fœtus are best heard as a rule where the back is in contact with the walls of the uterus. The sound resembles the ticking of a watch, and has a rapidity ranging between 130—140 beats in the minute, roughly about twice as frequent as the heart sounds of a healthy adult. Any movements of the child increase the frequency of the beats.

The sounds are better heard and more

easily found, if pressure is applied on the opposite side of the abdomen to that beneath which the child's back can be felt, so as to press the latter firmly up against the abdominal walls.

The fœtal movements are indicated by a light tapping noise—like that produced by a gentle knock at the door—the sound is especially heard over the place where the feet of the child are placed, and is produced by their striking the uterine walls.

The umbilical bruit, is a soft blowing sound synchronous with the fœtal heart sounds: it arises when the cord is wound round any part of the child, or is subjected to slight pressure: it is not often observed, when however it occurs, it is usually heard best on the side on which the back of the child lies.

Of less significance are the sounds which are of maternal origin:—

1. The Uterine souffle, produced by the rush of blood in the large uterine

vessels. It is a pulsating humming sound of varying intensity, synchronous with the pulse of the mother. It is commonly best heard in either flank, in the neighbourhood of the cervical portion of the uterus, the large arteries in that region being subjected to pressure; it is however frequently absent.

2. A sound due to the pulsation of the large arterial trunks within the abdomen. A dull rhythmical beating sound synchronous with the beats of the maternal pulse: it is also often not present.

3. Sounds arising in the intestines of the mother, a gurgling or hissing noise depending upon movements of gas in the alimentary canal.

The external examination above described is best carried out during the intervals between the pains, and must naturally be frequently repeated in the course of a labour, since such examination is the means of determining whether the advance of the presenting part is proportional to

the strength and frequency of the pains. An over-full bladder will be detected; and early knowledge is obtained of threatening conditions such as the existence and gradual rise of a contraction ring, as a result of long-continued and powerful pains. The excessive and painful tension of the round ligaments which sometimes occurs is also detected in the intervals between the pains, the ligaments being felt as two thick, very tender cords, one on each side of the bladder.

§ 3.

Internal or Vaginal Examination.

The purpose of this is to determine by digital exploration through the vagina the condition of the organs lying within the pelvis; the character of the inner surface of the bony walls of the pelvis; the position, attitude, presentation, and con-

dition of the embryo, and what other portions of the ovum are to be felt.

Before making the internal examination of a woman, who is pregnant or in labour, the observer should on each and every occasion cleanse the hands according to certain definite regulations. If he fail to do so at all, or does not follow the regulations, he commits an offence against the health and life of his patient. (In Saxony and some other parts of the German Empire he renders himself liable, should the woman die or become severely ill during the puerperium, to prosecution for the offence).

§ 4.

The Rules of Cleansing are as follows:

A.—Introductory remarks.

1. Women during pregnancy, labour, and the puerperium, are extremely easily infected—even by a single examination—to an extent which may prove fatal.

2. Infective materials are usually conveyed by the examining finger, but they may also be transferred from dirty instruments, bedding, or clothes.

3. The hands are the most valuable instruments which the accoucheur possesses; he should therefore take care to keep his hands and finger-nails fine and delicate; and to accustom himself to avoid touching objects, or parts of the body, which are not quite clean, unless it be necessary for the good of his patient. All unnecessary manipulation is bad and requires a fresh cleansing of the hands.

4. The germs of disease occur everywhere, and hence the danger of infection is present at every examination. It is therefore never well to trust to good fortune, but to follow in every detail and on all occasions, the rules for cleansing prescribed. Then only can good results be ensured.

5 Women during pregnancy and labour should be examined as seldom as possible, and in fact only, when the method of external examination insufficiently discloses what it is essential to know.

6. On the other hand the external or abdominal examination, should be resorted to as often as possible; above all very frequent notice should be taken of the heart sounds of the child.

7. No healthy woman should be examined per vaginam during the first nine days after delivery. By the law of Saxony the midwife is prohibited from examining women suffering from any form of fever during the puerperium.

8. The rules for cleansing, are to be followed conscientiously, not only before and after an examination, but during the whole course of labour.

B.—Particular points.

9. The midwife when attending a labour should wear a clean dress, with short sleeves, made of some washable material, and over this a large white apron with an upper part to cover the chest, or she may wear a white linen overdress also with short sleeves.

10. The nails of all the fingers should be kept short, not only of the examining finger. Rings should be removed, and it is best not to examine at all internally, if there are any wounds, warts, ulcers, or inflamed spots on the hands.

11. Three washing basins should be prepared if possible. One, filled with warm water, the midwife uses for the purpose of washing her hands. In the others is placed a 5% solution of carbolic acid—made by adding one

fluid ounce, or eight teaspoonfuls of liquid carbolic acid to a pint of water, the two being well mixed together.—By taking half the 5% solution and adding to it an equal quantity of warm water, a 2½% solution is obtained, which the midwife should use for disinfecting the external genitals after they have been well washed with soap and water.

12. The patient should be well washed before labour. For this purpose a warm bath with the use of soap should, when possible, be given. The hairs about the pudenda should then be cut short with scissors, and the whole region (genitals, mons veneris, thighs, anus, and nates) cleaned with a soft brush, for five minutes by the clock, with warm water and soap, followed by brushing for three minutes with a two and a half per cent solution of carbolic acid; care being taken to go well into the folds between the labia

minora and majora. Lastly, the patient should be dressed in clean clothing. During a prolonged labour, the above washing should be repeated at least once every three hours.

After attending to the cleansing of the patient as above, the midwife should proceed to wash and disinfect her own hands—in the following manner.

13. I. The dirt under the nails is to be removed with an instrument which should always be carried for this purpose in the pocket.

II. The hands—especial attention being given to the nails and skin between the fingers—and arms up to the elbow are then to be washed with warm water and soap for five minutes, using a nail-brush; the washing should be continued until no trace of dirt or unpleasant odour remains.

III. Following this, the hands, nails, and forearms, are to be brushed for

at least three minutes with warm 5% (1 in 20) carbolic solution [1] and soap

14. The hands thus cleansed, should not be dried, nor should they come in contact with any object such as articles of clothing, or parts of the patient's body not necessarily touched during the examination; should this occur, the hands must be cleansed afresh.

15. Before proceeding to examine, it is well to make sure by inspection that the parts are thoroughly clean, particularly with reference to fæces. Should contamination of this sort exist, the examination must be deferred until the patient has been again cleansed as above directed. To examine—the labia are separated with the fingers

[1] The physician may replace the use of this carbolic acid solution, by brushing the hands and forearms with a 1 in 2000 corrosive sublimate solution for two minutes, followed by a 1-1000 solution of the same salt for one minute (This note refers to the fact that the midwives in Saxony are not allowed to use or have about them any corrosive sublimate).

of one hand, while the index finger of the other, lubricated with 2 % carbolised vaseline, is passed upwards along the posterior well of the vagina.

16. Great care must to taken not to rupture the membranes: the examining finger should never be allowed to bore about around, or within the cervical canal; but should merely touch lightly the presenting part of the child, even though the membranes may be already ruptured. Any roughness of manipulation about the cervix is extremely dangerous during pregnancy, labour, or the puerperium.

17. The internal examination should not be unduly protracted.

18. Before any subsequent examination the hands are to be again cleansed in the manner prescribed in Rule 13.

19. Should the accoucheur be called in late to a case, so that owing to the urgent necessity of rendering assistance, there should be no time to

wash the patient, or the hands, in the regular manner, the latter should be covered with a towel wrung out of 2½ % carbolic acid solution, and with this the perinæum may be supported and other necessary manipulations carried out.

§ 5.

The patient to be examined should lie on her back, with the legs drawn up as far as possible, the feet being placed together and the knees well separated.

The vaginal examination is effected by the tactile sensibility of the finger.

As, however, the entrance may be narrow and the method often slightly painful or possibly dangerous, the utmost care and delicacy must be used. A well-formed and flexible hand, with the necessary practice on the phantom, is the chief means to this end.

It is best to examine only with the index finger, exceptionally with the index and middle fingers. The third, fourth

and fifth fingers, are bent down into the palm of the hand, the index finger extended, and the thumb abducted as far as possible; (the abduction of the thumb may be rendered more easy, by the frequent exercise of pressing the tips of the thumbs, and of the index fingers of both hands together, in such a way as to forcibly separate the thumbs as far as possible from the fingers). The observer having separated the labia majora with two fingers of the left hand, gently introduces the index finger of the right hand, and passes it up along the posterior wall of the vagina as far as he is able in the direction of the sacral promontory; examining in so doing the posterior half of the pelvis from below upwards.

In a contracted pelvis it will be found that the whole of the posterior surface of the sacrum up to the promontory can be felt in this manner. In a normal pelvis it is only possible to reach the second or third sacral vertebra from below.

The palmar surface of the index finger

is now turned to the front and examines in succession, the vaginal portion of the cervix, the os externum, the presenting part of the child with reference to its position in the pelvis, its size and mobility, the membranes, and the anterior vaginal wall.

In the majority of normal labours, a single vaginal examination will suffice to give a clear idea of all the above mentioned conditions; and if after this the method of external examination be constantly used—especially the fourth mode of application of the hands—no repetition of the internal examination will be needed. If, however, it should become necessary, the following points are to be noticed:

I. The shortening and eventual disappearance of the vaginal portion of the cervix.

II. The gradual dilatation of the os.

III. The tension, or ruptured condition of the membranes.

IV. Any alteration in the position of the head.

§ 6.

During the first stage of labour the vaginal examination should be avoided, as long as the external method shews that both mother and child are in a normal condition, and that labour is taking its natural course. The mere presence of pains at the beginning of labour, nothing being abnormal, does not indicate the immediate necessity of a vaginal examination.

No one, indeed, can be too strongly warned against the unnecessary use of such examination. It is more than culpable to attempt to help the dilatation of the os, by stretching with the fingers, or by pushing up the anterior lip in normal cases. The membranes should always be preserved from rupture as long as possible and to prevent this occurring too soon, examination while dilatation is going on should, unless absolutely necessary, be carried out only during the intervals between the pains. Unfortunately there are still midwives who

are accustomed to tell the patient and her friends, that they can hasten the process of birth; and whose habit it is, to examine frequently per vaginam, to stretch and oil the cervix, or to rupture the membranes when the os is still incompletely dilated, in order to bring on, or strengthen, the pains. Such a proceeding is as thoughtless as it is dangerous, since it causes the patient without exception to incur the risk of very severe illness or even death. It should therefore entail upon the midwife a penalty of corresponding severity.

Bearing down in the first stage of labour should be avoided. Since, when the os is not completely dilated, it results in the lower uterine segment being forced down into the true pelvis, the walls of the uterus are then compressed between the head and the pelvic bones and swelling and inflammation of the edges of the os externum may supervene.

It is well also to be on one's guard against questions as to the probable dura-

tion of the labour, because during the stage of dilatation, it is of course impossible to form an accurate opinion upon this point. The patient's anxiety will be increased, and she will be apt to lose faith in the accoucheur, should his prophecy chance to prove incorrect.

As soon as rupture of the membranes occurs, the character of the child's heart sounds, and,—by the use of the third and fourth modes of application of the hands,—the presentation must be accurately determined. This is to be followed by a careful vaginal examination to make sure that the umbilical cord, or an arm, is not presenting with the head; should this happen to be the case the midwife must summon skilled assistance.

At the same time the presenting part should be examined to determine the particular variety of vertex or breech presentation, supposing that it is not possible to do this by the method of external examination.

The amount and character of the liquor

amnii should be carefully observed. From the rupture of the membranes onwards it is well to listen at frequent intervals to the heart sounds in order to have a constant knowledge of the condition of the child.

When the os externum is completely dilated, and the woman strong, she should be directed to bear down during the pains. To further this object, when the birth is to take place in the dorsal position, it is a good thing to place a small cushion beneath the upper part of the body, to see that the feet are fixed against the lower end of the bed so that the legs are bent at the knees, and to place in the patient's hands the straps usually fixed at the foot of the couch arranged for the purpose of labour; she should be directed to pull hard on these straps, bearing down at the same time during the pains, the chin is thus brought down on to the chest, and the elbows bent, the breath being at the same time held by keeping the mouth shut.

As the pain increases in power the woman should gradually increase the

strength with which she is bearing down and vice versa as the pain disappears.

The force with which the pains are assisted in this way should be moderated according to the strength of the patient.

Weakly women, or those who suffer from shortness of breath, hernia, or prolapse should be directed not to bear down.

The intervals, between the pains, ought to be times of rest; bearing down during the intervals is not only useless, but disadvantageous as it wastes the strength of the patient.

During the stage of expulsion, observe carefully, by means of the fourth mode of the external examination, the progress of the head through the pelvis; listening constantly to the heart sounds, attending with care to the distension of the vulva and perinæum, but avoiding all unnecessary internal examination.

END.